

Appl. No. 10/708,158
Response dated 12/27/2005
Reply to Office Action of 6/27/2005

Please enter amendment as shown. Please note:
Applicant's recited pages or paragraphs are all
incorrect.

Thanks. Ro 3/9/06

AMENDMENTS TO THE SPECIFICATION

Please substitute the following paragraph for the first paragraph in the specification:

A This application is a continuation in part of United States Patent Application Ser. No. 10/604,525, now U.S. Patent Serial No. 6,809,495, filed on July 28, 2003 entitled "System and Method for Moving Objects within Three-Dimensional Space" which is hereby incorporated by reference.

Please delete the paragraph on page 14 of the specification associated with Fig. 8A:

Figure 8A is a perspective view of an embodiment of the platform utilizing a passive or active stabilized platform and counterweight.

Please add a paragraph on page 14 of the specification between the paragraphs associated with Fig. 12 and Fig. 14:

b Figure 13 is a perspective view of an embodiment of the platform utilizing a passive or active stabilized platform and counterweight.

Please replace paragraph ~~57~~⁷⁸ as follows:

C [0057]⁷⁸ Figure 8 shows a close up perspective of platform 124 supported by a passive or active stabilization system 803, which may exist at crossbar 601 (not shown for brevity) or at platform 124 as shown, supported by rod 800 which may comprise a counterweight (shown in Figure 8A Figure 13) at the top of rod 800 with rod 800 mounted on crossbar 601 slightly above the center of gravity of the combination of platform 124, rod 800 and counterweight 804. Crossbar 601 may be hinged with a universal joint or may comprise a gimbal as shown in Fig. 7. Many more platform embodiments are possible and the platforms shown in Figs. 6, 7, 8 and 11 are merely a small set of examples of the myriad of configurations possible. Any camera assembly including but not limited to those with vertical or horizontal orientations and with or without active or passive stabilization may also be supported and moved with embodiments of the invention. Since the X and Y line (in one or two line embodiments) supports platform 124 from upward

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angles on each of the platforms sides, there is no need for a tag line or gimbal assembly to provide further stabilization although embodiments of the invention may utilize such a device.

In fact, the line support elements on platform 124 act as tag lines for moving platform 124 through three dimensional space.

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Description

CABLING SYSTEM AND METHOD FOR FACILITATING FLUID THREE-DIMENSIONAL MOVEMENT OF A SUSPENDED CAMERA

BACKGROUND OF INVENTION

Sub a [0001] This application is a continuation in part of United States Patent Application Ser. No. 10/604,525, filed on July 28, 2003 entitled "System and Method for Moving Objects within Three-Dimensional Space" which is hereby incorporated by reference.

[0002] FIELD OF THE INVENTION

[0003] Embodiments of the invention described herein pertain to the field of aerial cable rail systems that enable the fluid movement of a suspended camera or other object within three-dimensional space.

[0004] DESCRIPTION OF THE RELATED ART

[0005] An aerial cable rail system is a system based on an ele-

[0031] Figure 4 is a top view of a rectangular embodiment of the system.

[0032] Figure 5 is a top view of a quadrilateral embodiment of the system where no two sides are required to have the same length.

[0033] Figure 6 is a perspective view of an embodiment of the platform.

[0034] Figure 7 is a perspective view of an embodiment of the platform.

[0035] Figure 8 is a perspective view of an embodiment of the platform utilizing a passive or active stabilized platform.

[0036] Figure 8A is a perspective view of an embodiment of the platform utilizing a passive or active stabilized platform and counterweight.

[0037] Figure 9 is a top view of a scalene triangular embodiment of the system where no two sides are required to have the same length.

[0038] Figure 10 is a close up view of the reeving comprising line support elements.

[0039] Figure 11 is a perspective view of an embodiment of the platform comprising two line support elements per side.

[0040] Figure 12 shows reeving of a single line embodiment.

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[0041] Figure 14 shows a logical reeving diagram.

702 with inner platform 701 which may support any useful device and may be further comprise powered axes which may be moved by direct or wireless command. The embodiment may comprise an isolator with one or more axes of platform 701 are isolated and free rotating, or passively stabilized with dampers or actively stabilized in terms of pitch, roll and pan axis rotation. The active stabilization may be position, velocity, acceleration, jerk or any other order to distance per time derivative. Platforms may be rotatable from the inside as shown or via the outside of platform 700 (which would comprise a circular outer shape not shown for brevity. Figure 11 shows a variation of Figure 7 with two line support elements per side. In this embodiment, each side of platform 700 couples with an opposing line via two pulleys per side. Embodiments may employ line support elements of any number or any size on the platform.

[0078] Figure 8 shows a close up perspective of platform 124 supported by a passive or active stabilization system 803, which may exist at crossbar 601 (not shown for brevity) or at platform 124 as shown, supported by rod 800 which may comprise a counterweight (shown in Figure 8A) at the top of rod 800 with rod 800 mounted on crossbar 601

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slightly above the center of gravity of the combination of platform 124, rod 800 and counterweight 804. Crossbar 601 may be hinged with a universal joint or may comprise a gimbal as shown in Fig. 7. Many more platform embodiments are possible and the platforms shown in Figs. 6, 7, 8 and 11 are merely a small set of examples of the myriad of configurations possible. Any camera assembly including but not limited to those with vertical or horizontal orientations and with or without active or passive stabilization may also be supported and moved with embodiments of the invention. Since the X and Y line (in one or two line embodiments) supports platform 124 from upward angles on each of the platforms sides, there is no need for a tag line or gimbal assembly to provide further stabilization although embodiments of the invention may utilize such a device. In fact, the line support elements on platform 124 act as tag lines for moving platform 124 through three dimensional space.

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[0079] Figure 1 shows an embodiment of the invention that uses single line support elements at all line direction points. Other embodiments may use multiple line support element arrangements virtually anywhere where a single line support element is used in order to change direction of a